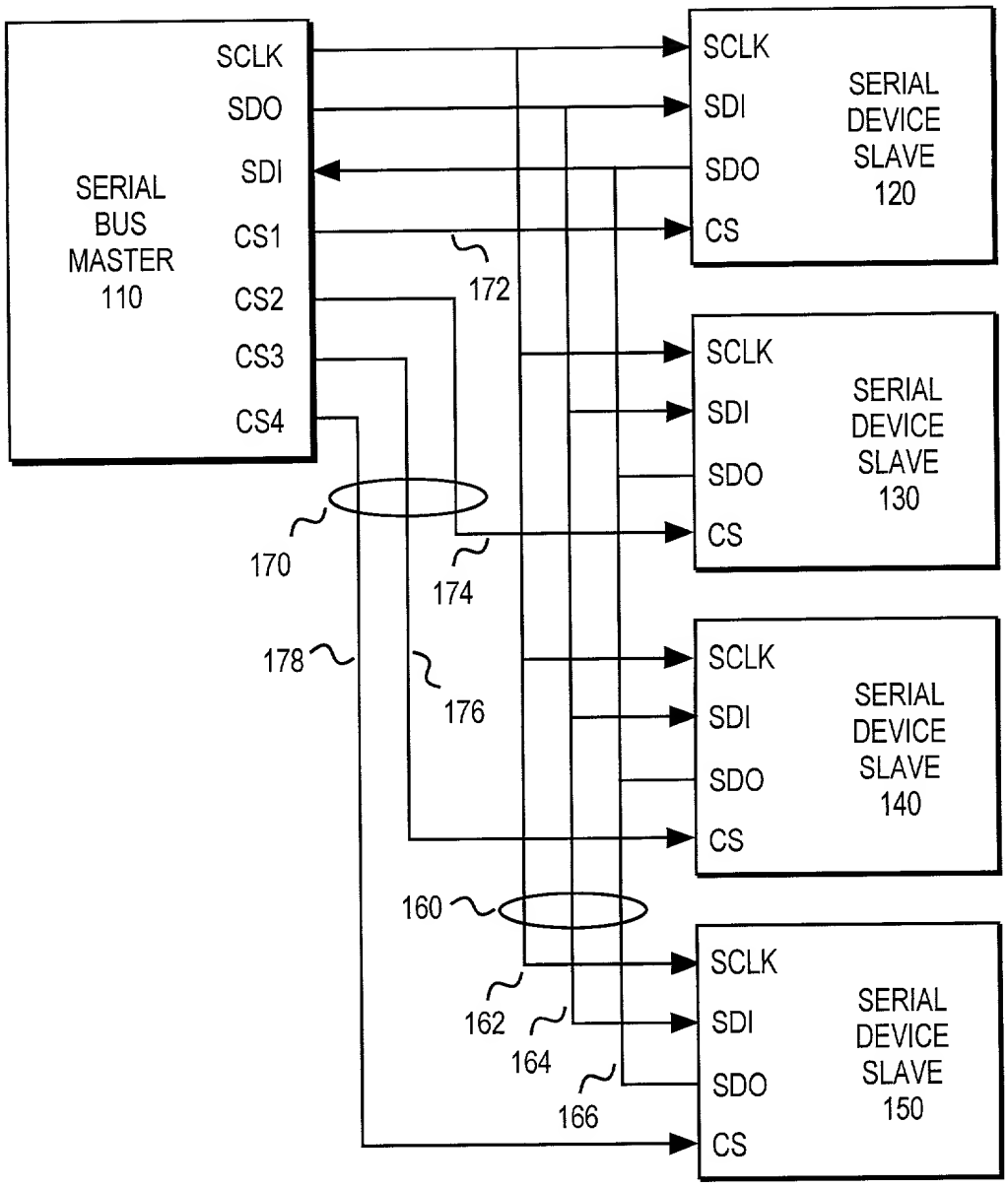

SERIAL BUS MASTER 110
SCLK
SDO
SDI
CS1
CS2
CS3
CS4
SERIAL DEVICE SLAVE 120
SERIAL DEVICE SLAVE 130
SERIAL DEVICE SLAVE 140
SERIAL DEVICE SLAVE 150
SCLK
SDI
SDO
CS
170
172
174
176
178
160
162
164
166

FIG. 1

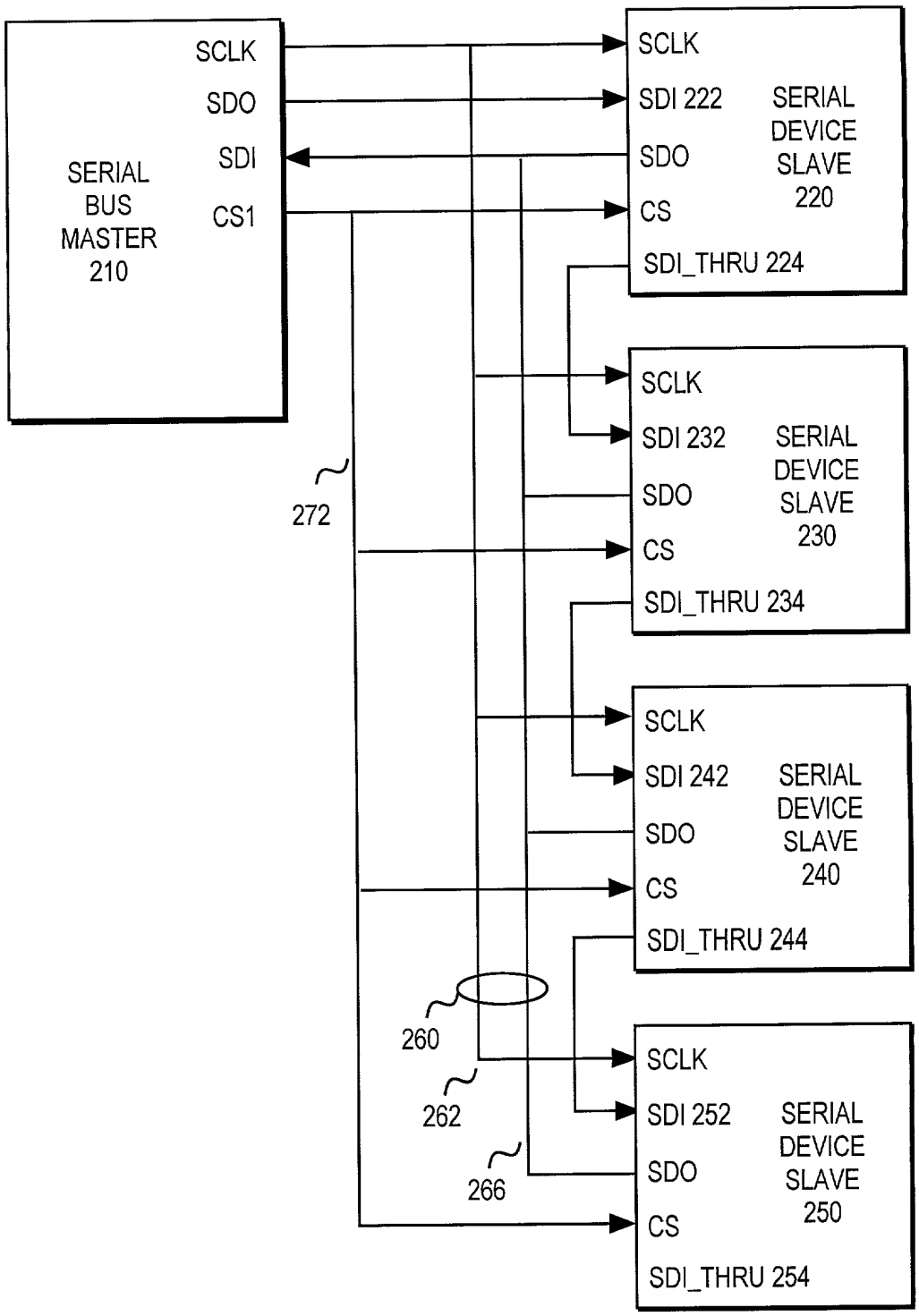

SERIAL BUS MASTER 210
SCLK
SDO
SDI
CS1
SCLK
SDI 222
SDO
CS
SDI_THRU 224
SERIAL DEVICE SLAVE 220
SCLK
SDI 232
SDO
CS
SDI_THRU 234
SERIAL DEVICE SLAVE 230
SCLK
SDI 242
SDO
CS
SDI_THRU 244
SERIAL DEVICE SLAVE 240
SCLK
SDI 252
SDO
CS
SDI_THRU 254
SERIAL DEVICE SLAVE 250
272
260
262
266

FIG. 2

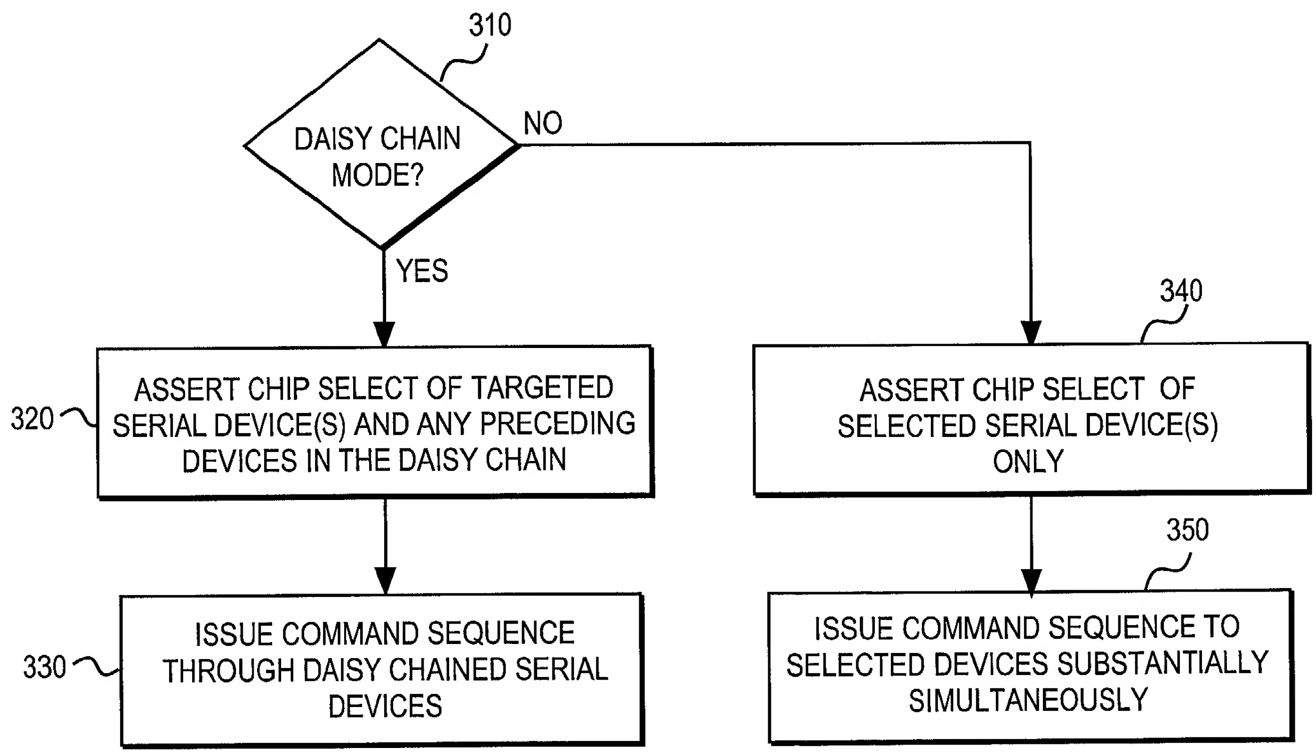

310
DAISY CHAIN MODE?
NO
YES
320
ASSERT CHIP SELECT OF TARGETED SERIAL DEVICE(S) AND ANY PRECEDING DEVICES IN THE DAISY CHAIN
330
ISSUE COMMAND SEQUENCE THROUGH DAISY CHAINED SERIAL DEVICES
340
ASSERT CHIP SELECT OF SELECTED SERIAL DEVICE(S) ONLY
350
ISSUE COMMAND SEQUENCE TO SELECTED DEVICES SUBSTANTIALLY SIMULTANEOUSLY

FIG. 3

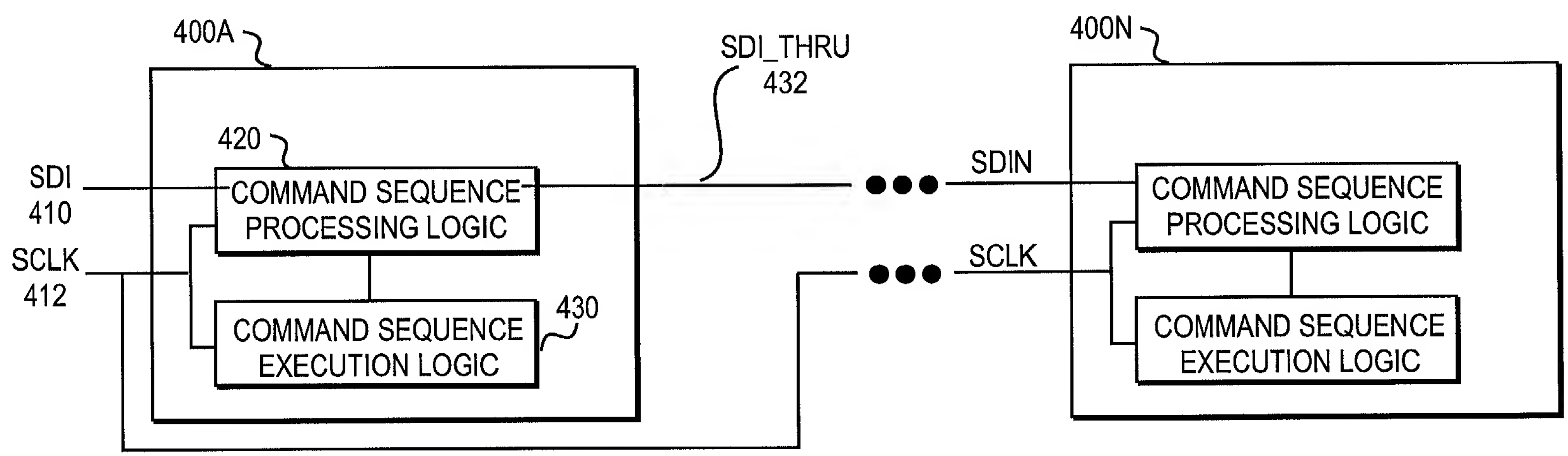

400A
SDI_THRU
432
400N
420
SDI
410
COMMAND SEQUENCE PROCESSING LOGIC
SCLK
412
COMMAND SEQUENCE EXECUTION LOGIC
430
SDIN
SCLK
COMMAND SEQUENCE PROCESSING LOGIC
COMMAND SEQUENCE EXECUTION LOGIC

FIG. 4

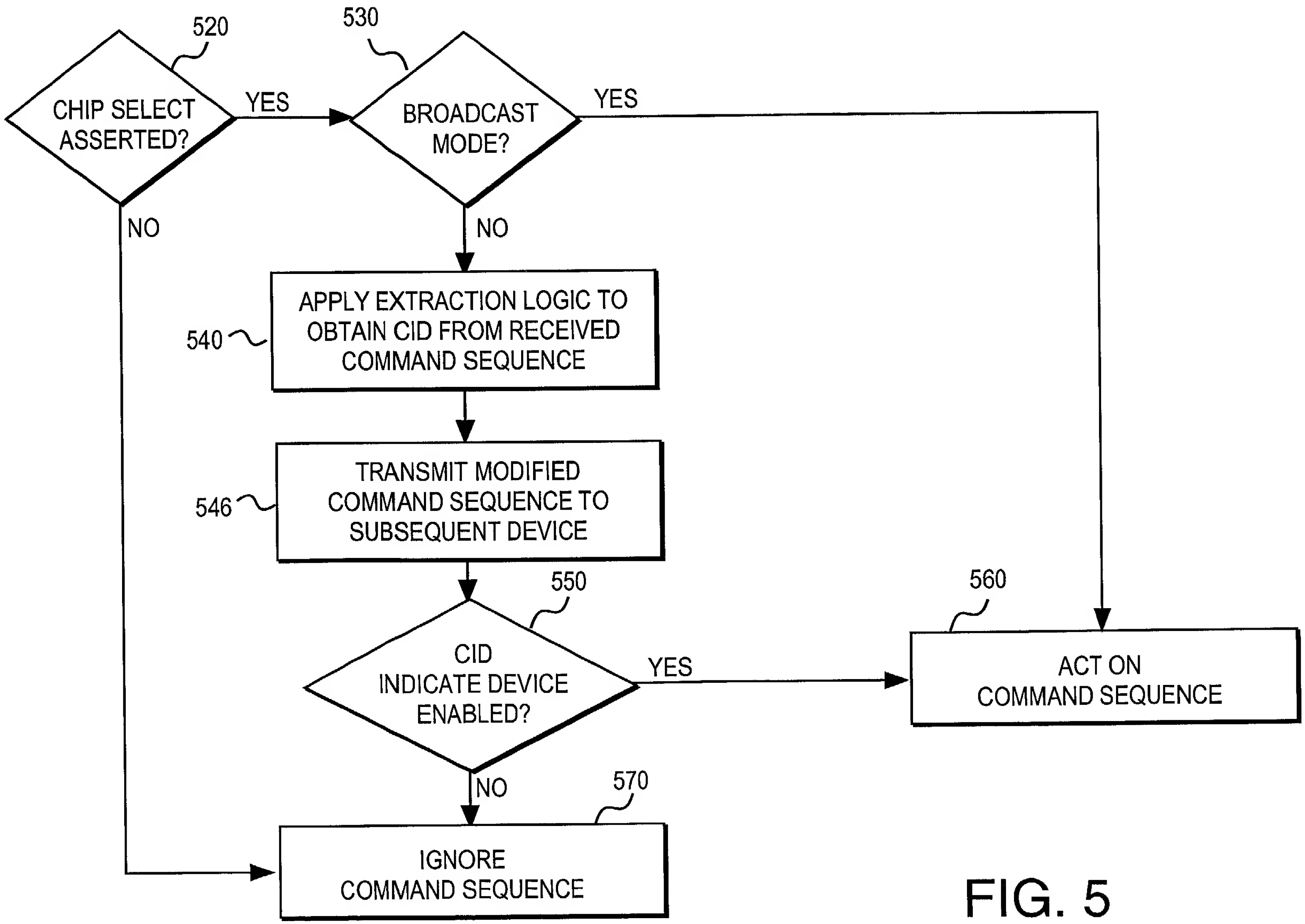
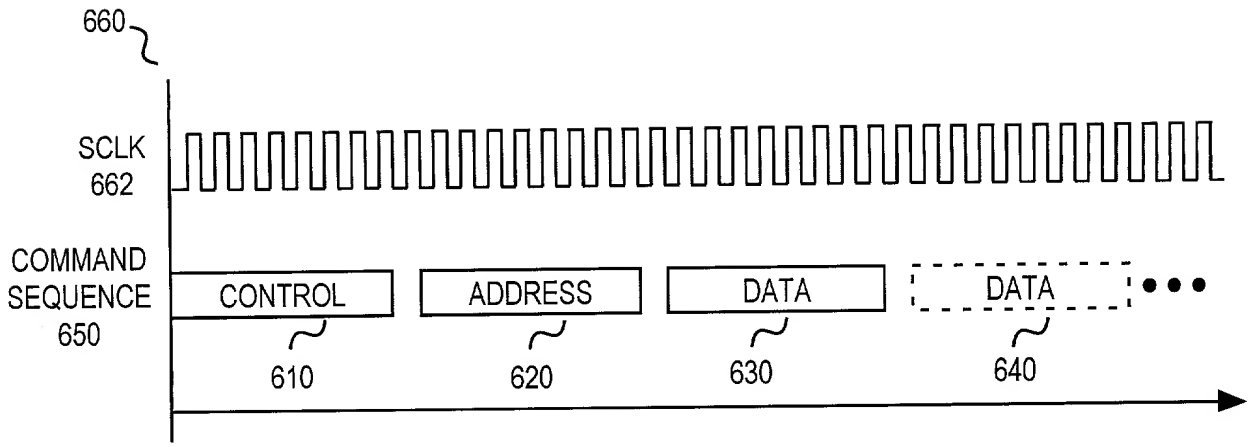

520
CHIP SELECT ASSERTED?
YES
NO
530
BROADCAST MODE?
YES
NO
540
APPLY EXTRACTION LOGIC TO OBTAIN CID FROM RECEIVED COMMAND SEQUENCE
546
TRANSMIT MODIFIED COMMAND SEQUENCE TO SUBSEQUENT DEVICE
550
CID INDICATE DEVICE ENABLED?
YES
NO
560
ACT ON COMMAND SEQUENCE
570
IGNORE COMMAND SEQUENCE

FIG. 5


660
SCLK
662
COMMAND
SEQUENCE
650
CONTROL
ADDRESS
DATA
DATA
610
620
630
640

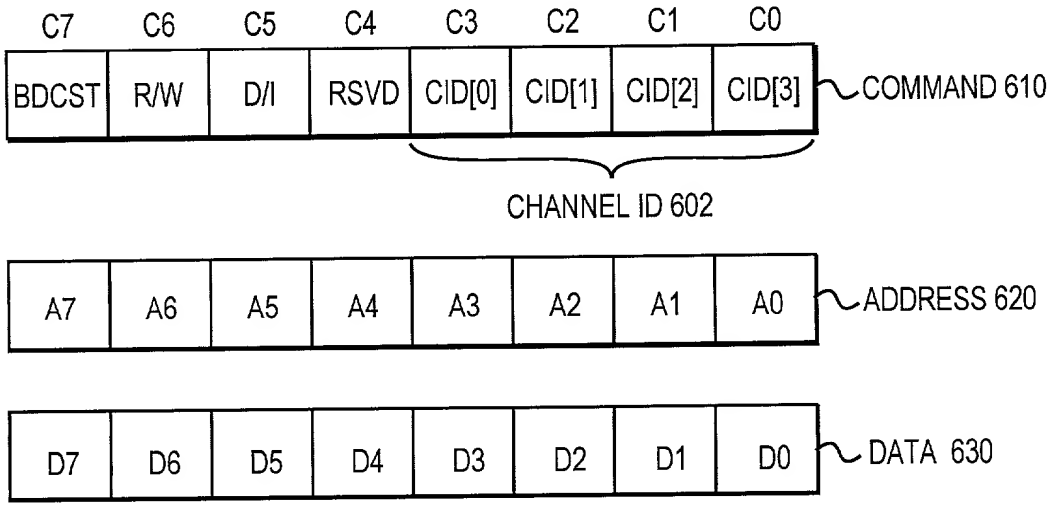

C7
C6
C5
C4
C3
C2
C1
C0
BDCST
R/W
D/I
RSVD
CID[0]
CID[1]
CID[2]
CID[3]
COMMAND 610
CHANNEL ID 602
A7
A6
A5
A4
A3
A2
A1
A0
ADDRESS 620
D7
D6
D5
D4
D3
D2
D1
D0
DATA 630

FIG. 6

700

710 TARGETED DEVICE	720 EMBEDDED COMMAND WORD RECEIVED	730 EMBEDDED COMMAND WORD TRANSMITTED
0000	0000	1111
0001	1000	0000
0010	0100	1000
0011	1100	0100
0100	0010	1100
0101	1010	0010
0110	0110	1010
0111	1110	0110
1000	0001	1110
1001	1001	0001
1010	0101	1001
1011	1101	0101
1100	0011	1101
1101	1011	0011
1110	0111	1011
1111	1111	0111

FIG. 7

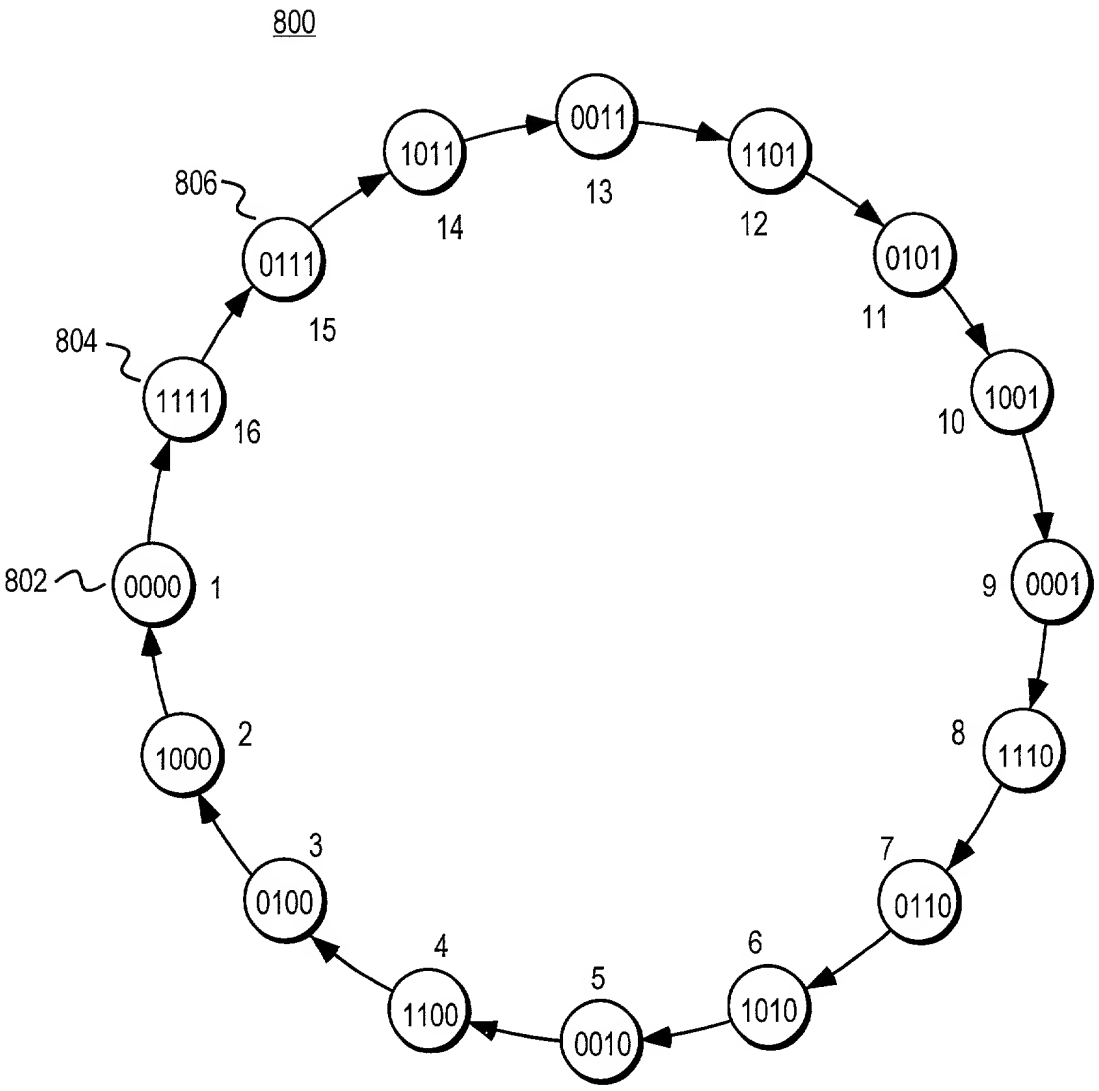

800
0011
13
1101
12
0101
11
1001
10
0001
9
1110
8
0110
7
1010
6
0010
5
1100
4
0100
3
1000
2
0000
1
802
1111
16
804
0111
15
806
1011
14

FIG. 8